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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/544,104

08/02/2005

Simon J. Case

361915

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23117

7590

07/09/2007

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EXAMINER

BERMAN, MELISSA J

ART UNIT

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2129

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/544,104	Applicant(s) CASE ET AL.	
	Examiner Melissa J. Berman	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/2/2005</u> | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is responsive to application 10/544104 filed on 8/02/2005. Claims 1-14 have been examined.

#### ***Information Disclosure Statement***

The information disclosure statement filed 9/13/2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The IDS lists "British Search Report July 7, 2003" however it has not been submitted.

#### ***Claim Objections***

Claims 13 and 14 are objected to because of the following informalities:

Claim 13 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 14.

When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Examiner suggests canceling Claim 13 or Claim 14.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 recites "comprised in the information data set" however, parent Claim 1 recites two different information data sets, the "sample set of information data sets" or later referred to as "selected information data sets" and the "given information data set". Claim 2 recites "an information data set of terms". It is unclear which of these three information data sets Claim 2 is referring to by reciting "the information data set".

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather that the final result achieved by the claimed invention is useful, tangible and concrete. If the claim is directed to a practical application of the §101 judicial exceptions producing a result tied to the physical world that does not preempt the judicial exception, then the claim meets the statutory requirement of 35 U.S.C. §101.

The claims are a manipulation of abstract concepts and are not clear in purpose or scope.

The invention must be for a practical application and either:

- 1) specify transforming (physical thing - article) or
- 2) have the Final Result (not the steps) achieve or produce a  
useful (specific, substantial, AND credible),  
concrete (substantially repeatable/non-unpredictable), AND  
tangible (real world/non-abstract) result  
(tangibility is the opposite of abstractness).

A claim that is so broad that it reads on both statutory and non-statutory subject matter must be amended.

In the present case, claims 1-14 **preempt** a wide variety of 'information data sets' such as information data sets for electronic word documents, or information data sets for musical compositions, or information data sets for webpages, or information data sets in object headers, or information data sets for book titles, or information data sets document descriptions, or information data sets in multimedia descriptions and summaries, or information data sets for exercise routines, etc.

The courts have also held that a claim may not preempt ideas, laws of nature or natural phenomena. The concern over preemption was expressed as early as 1852. See Le Roy v. Tatham, 55 U.S. (14 How.) 156, 175 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

Accordingly, one may not patent every “substantial practical application” of an idea, law of nature or natural phenomena because such a patent “in practical effect would be a patent on the [idea, law of nature or natural phenomena] itself.” “Here the “process” claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure-binary conversion. The end use may (1) vary from the operation of a train to verification of drivers’ licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus.” Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

The Courts have found that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable. As the Supreme Court has made clear, “[a]n idea of itself is not patentable,” *Rubber-Tip Pencil Co. v. Howard*, 20 U.S. (1 Wall.) 498, 507 (1874); taking several abstract ideas and manipulating them together adds nothing to the basic equation. *In re Warmerdam*, 31 USPQ2d 1754 (Fed. Cir. 1994).

Claims 1-6, and 8-12 are directed towards training a classifier with a ‘sample set of information data sets’ and using this classifier to identify a ‘given information data set’. Claims 1-6, and 8-12 do not have a final result which is useful and tangible. The final step in the method of Claim 1 is using the values of a metric to train a classifier. This is not a final result. The final step does not actually determine the identification of a given information data set, nor does it output its results to a user. The claims are also executed absent of a tangible medium. There is also no practical application mentioned in the disclosure for the claims. Although Claim 8 mentions an ‘output’ this does not overcome the lack of tangibility of the result or the lack of usefulness. The claims 2-6 and 9-12 are rejected based on their dependency to claims 1 and 8.

Claims 7, 13 and 14 are directed towards training a classifier to identify levels of expertise and then using apply a searching algorithm and rank the results using the classifier on the information data sets. The final step in claim 7, 13, and 14 lack a final result which is useful and tangible. The final result of “selecting relevant information data sets” is abstract and lacks a tangible medium and does not output this information or provide a use. disclosed are not statutory without a final output that is useful, concrete, and tangible. Claims that simply have an ‘output’ but the output is not tangible or useful, are still not statutory.

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by **Sebastiani** (“Machine Learning in Automated Text Categorization” 2002).

#### **Claim 1, 8**

**Sebastiani** disclosed a method for determining a measure of the level of expertise applicable to a given information data set, comprising the steps of:

(i) selecting, in respect of each of a plurality of predetermined levels of expertise (categories, see e.g., §2, especially §2.1; §4.1), a representative sample set of information data

sets (training set or training documents, see e.g., §4, especially §4.1; §5, especially §5.2 and §5.3; §6);

(ii) determining, for each of said selected information data sets, the value of a metric indicative of the incidence (weights, see e.g., §4.1, §5.1, especially equation (1); §5.2; §5.3 ), in a reference corpus of information, of terms comprised in the selected information data set (term, see e.g., §5.1; §5.2; §5.3); and

(iii) using the values of said metric determined in step (ii) to train an information classifier (classifier see e.g., §4, especially §4.1; §5; §6; §6.2; §6.3, §6.4, §6.5), to identify, from a value of said metric calculated for the given information data set (weights, see e.g., §4.1, §5.1, especially equation (1); §5.2; §5.3 ), at least one of said plurality of predetermined levels of expertise applicable to the given information data set (text categorization or TC, see e.g., §2; §4; EN: The classifier performs a metric and is being used the categorize the given documents).

#### **Claim 2, 9**

**Sebastiani** disclosed a method as in Claim 1, wherein said metric comprises a combined measure of the incidence within an information data set of terms comprised in the information data set (the  $t_f$  (term frequency) of  $t_k$  (a term) in  $d_j$  (document), see e.g., 5.2, especially “properties of the relationship between a term  $t_k$  and a document  $d_j$ ; §5.1, especially equation 1; §5.3; §5.4 especially §5.4.1; 5.4.2) and of the incidence of each said term in the reference corpus (all equations, Table 1, term frequency, see e.g., §5.1, especially equation 1; §5.3; §5.4).

#### **Claim 3, 10**

**Sebastiani** disclosed a method as in Claim 1, wherein at step (iii), training the classifier comprises:



(a) making distributions of normalised values of said metric for data sets in each of the representative sample sets selected at step (i) (equation 2, see e.g., §5, especially §5.1); and

(b) for each of said predetermined levels of expertise, identifying from said distributions a corresponding range of normalised values of said metric (categorization status value, see e.g., §2.3; §2.4; §6, especially; §6.1).

**Claim 4, 11**

**Sebastiani** disclosed a method as in claim 1, wherein at step (iii), the trained classifier is arranged to determine a measure of the probability that a particular one of said predetermined levels of expertise is applicable to the information data set (probability, see e.g., §6.1 EN: The probability of a document, which is an information data set, belonging to a category, which is a level of expertise; §6.2).

**Claim 5, 12**

**Sebastiani** disclosed a method as in claim 1, wherein determining a value for said metric comprises applying a stemming algorithm to stem terms comprised in a respective information data set (stemming, see e.g., §5.1; §5.2, especially “*terms* may be single words, *stems*, phrases combinations of any of these” EN: term applies; §7.3) and determining the incidence of the stemmed terms in the reference corpus (see e.g., §5.1, especially “frequency”; §5.2, especially “*terms* may be single words, *stems*, phrases combinations of any of these” EN: term applies; §5.5; §7.3).

**Claim 6**

**Sebastiani** disclosed a method as in claim 1, wherein the reference corpus is provided with an interface for outputting the relative frequency of occurrence in the corpus of a term (see e.g., §2, especially §2.1; §2; §5.2; §5.3).

**Claim 7, 13, 14**

**Sebastiani** disclosed a method of accessing information data sets, stored in an information system, relevant to search criteria specifying an indication of a category of information to be accessed and to a specified indication of a predetermined level of expertise in respect of said category of information, the method comprising the steps of:

(i) selecting a training set of information data sets (training set or training documents, see e.g., §4, especially §4.1; §5, especially §5.2 and §5.3; §6) comprising, for each a plurality of predetermined levels of expertise (categories, see e.g., §2, especially §2.1; §4.1), a representative sample set of information data sets (training set, see e.g., §4, especially §4.1; §5, especially §5.2 and §5.3; §6);

(ii) determining, for each data set in the training set, the value of a metric indicative of the incidence (weights, see e.g., §4.1, §5.1, especially equation (1); §5.2; §5.3), in a reference corpus of information, of terms comprised in the training data set (term, see e.g., §5.1; §5.2; §5.3); and

(iii) using the values of said metric determined in step (ii) to train an information classifier (classifier see e.g., §4, especially §4.1; §5; §6; §6.2; §6.3, §6.4, §6.5), to identify at least one of said plurality of predetermined levels of expertise applicable to the given

information data set (text categorization or TC, see e.g., §2; §4; EN: The classifier performs a metric and is being used the categorize the given documents).

(iv) applying an information searching algorithm to identify information data sets (search, or IR, see e.g., §3.5; §4.2; §6.2, especially “probabilistic search systems”) stored in said information system relevant to said specified category of information (categories, multilabel, see e.g., Fig 2; §2; §3.3; §6.3; EN: categories may be overlapping such as in the multilabel, or may be binary, in which categories are separate, but may have subsets or subtrees of categories. A ‘category of information’ is separate from a ‘level of expertise’ however a document can be classified further with a ‘level of expertise’ or vice versa); and

(v) using the classifier trained at step (iii) to determine respective levels of expertise for information data sets identified at step (iv) (classifier see e.g., §4, especially §4.1; §5; §6; §6.2; §6.3, §6.4, §6.5) and comparing the determined levels of expertise with the specified level of expertise (profile, see e.g., §3.3; §6; §6.2; §6.7) to thereby select relevant information data sets (see e.g., §3.3; §5; §6; §6.2; §6.7, EN: compares the documents to a profile, and determines relevancy).

### *Conclusion*

The prior art of record and not relied upon is considered pertinent to the applicant’s disclosure.

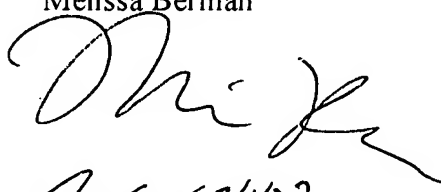

- Hadzikadie (Patent No. 7213023)
- Smith et al. (Pub No. 2004/0117367)
- Glover (“Using Extra-Topical User Preferences to Improve Web-Based Metasearch”, 2001)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Berman whose telephone number is 571-270-1393. The examiner can normally be reached on 9/4/5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MB

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7/1/07  
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